

# T News Letter DARS

TELFORD AND DISTRICT AMATEUR RADIO SOCIETY

[www.TDARS.org.uk](http://www.TDARS.org.uk)

[www.TelfordHamfest.co.uk](http://www.TelfordHamfest.co.uk)

Issue 303



Nov—Dec. 2021

[www.TDARS.org.uk](http://www.TDARS.org.uk)

## Programme

[www.telfordhamfest.co.uk](http://www.telfordhamfest.co.uk)

### Meetings returned to Little Wenlock Village Hall, unless stated otherwise

- November 24 Guest Speaker Callum M0MCX “DX Commander”—in person at LWVH! “Knots for Numpties” . . 8pm. Guaranteed to be entertaining.
- December 1 Committee Meeting (Webex) 2m FM net 144.600 MHz FM. LWVH Closed.
- December 8 EMF Workshop. What the new OfCOM licence conditions mean for us all, and how to calculate it. Bring your own Internet laptop/tablet. Practical session
- December 15 Practical Topics on a Theme: ANTENNAS. Sharing ideas
- December 22 Mince Pie & Mulled Wine Annual social evening
- December 29 Social evening via 2 metres (144.600 FM) and Webex. (No LWVH)
- January 5 (2022) Committee meeting (Webex). 2m (144.600 MHz FM) net (see also page 2)
- January 12 Winter Projects Update: Share progress (or otherwise !)
- January 19 Practical Projects on a Theme: MY FAVOURITE RADIO SOFTWARE
- January 26 Bowls Social Event—shared with LW Bowls Club in main hall LWVH
- February 2 Committee meeting (Webex). 2m (144.600 MHz FM).
- February 9 “Solar Cycle 25” Steve Nichols G0KYA RSGB Convention video (TBC)
- February 16 Surplus Equipment Sale LWVH
- February 23 Under-a-Fiver Construction Trophy competition

**For Equipment Loans & Returns contact Don M0TBQ.**

**For “Beyond Exams” scheme (Club or Individual) —enquiries to Graham G7LMF**

**For Morse Training and Morse Proficiency Tests Martyn G3UKV or Eric M0KZB.**

**Radio Amateur Exams- Latest: Contact Graham G7LMF training@tdars.org.uk**

## Editorial

“Stupid thing is I have seen several of these in household circuits (chewing gum, foil and nail), and was told of an incident many years ago in an aluminium foundry where a spanner was dropped onto the buzz bars and instantly atomised. “

# Qtc: News & Information



**TDARS MEETINGS EVERY WEDNESDAY EVENING HELD NORMALLY AT LITTLE WENLOCK VILLAGE HALL, UNLESS STATED OTHERWISE (SEE FRONT PAGE LISTING)**

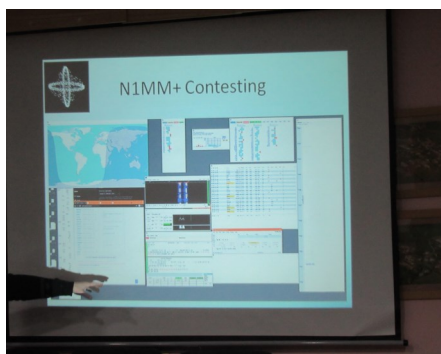
**Please note: A current membership card may be required to borrow TDARS equipment. Please return borrowed equipment promptly .**

**TDARS has quite an extensive library** of radio orientated books. These are available for loan. In particular, there are many excellent antenna books, partly thanks to a recent clear-out sale of 11 such books from John Warburton G4IRN who has moved to Shropshire and has joined the Club. Don 'TBQ' (Curator) can help you find the book you want — just ask.

Since returning to **meetings at LWVH**, the Committee has been experimenting with Internet linking (Webex) so that we can reach a wider audience, but retain the personal touch of 'real meetings'. Whilst it is quite easy to join Online meetings (thanks to the hard work of Graham G7LMF in particular), it is a further **leap to project the meeting on screen at LWVH, where the presenter may, or may not, be physically present.** Also the camera needs to be able to focus on a speaker who is actually present, but also quickly to relay an audience group or individual, and take audience questions and share answers. The Committee recognises that this total approach needs financing and is likely to extend well beyond the end of the Covid Pandemic—whenever that is.... Here's a photo taken at a recent LWVH meeting, where Heather M0HMO was giving a live presentation on RTTY Contesting to an audience of about 10, but with a further 5 or 6 members via Webex online. When it came to the final Q & A session, the outside viewers were projected onto the pull-down screen, so we were all viewable. Not as easy as it sounds !



Part of the audience. Online camera mounted under the projector.



Heather points out details  
Internet viewers see this view



Heather's laptop view, camera above .  
Later the audience see online members.

There have been some **radio contest results** recently. Noting Heather's presentation to the club in November (featured above), she came top in the WAB's April '21 data contest, with 47790 points—more than double the score of the runner-up, using her Contest Callsign M8K on the 3.5, 7 and 14 MHz bands.

The **microwave members of TDARS** have come away with some honours too. The best three scores over 4 or 5 summer months are 'normalised' on each uWave band to give a 'Championship score'. Our group operated from the Brown Clee ( IO82QL83, 540 MASL). On 5.7GHz (6cm) **G6ZME/P** topped the bill, whilst on 10GHz (3cm), **G3ZME/P** came runners-up (to G4ZTR). Again on 24GHz (1.2cm) **G3ZME/P** came overall 1st. The ops. Included **Paul G8AQA, Heather M0HMO, Martyn G3UKV, Kevin G8UPS, Mike G4NKC and Pat G3YFK**. Well done All ! Our two winners trophies are stuck over in Martlesham in Suffolk.

On the topic of Contests, Paul 'AQA' mentions that member **G4IRN** is travelling to the Is of Man with a group for the CQ WW CW contest, which takes place over the weekend 27/28 November. From the CQ WW website, John has a history of high scores on CW, for example, with a remarkable 694 QSOs in 2020 on 20 metres!

Graham, G7LMF our exam training leader has noted that OfCOM/RSGB no longer require any compulsory **practical activities for any level of the A.R. Exams**. There are many opposing views on this decision brought about by Covid-19 restrictions—but it is likely that some practical elements will continue to make training more interesting and understandable once our next local training course starts—probably in March 2022.



Several TDARS Members went across to the **Hinstock Memorial Hall** where the **Shropshire Astronomical Society was holding an open event** in October. It was well attended, and not just by grey-haired males! Children and parents were almost in a majority, and in fact their noise whilst undertaking a range of practical activities, almost overcame the first speaker at the front of the hall, until the PA system was subsequently turned on.

**Dave GOCER** sent the following commentary: ((9/10/2021)

“ I enjoyed today, it was a good event to go to and I didn't even get a chance to listen to any of the talks.

We used our Linux group Hamfest stand style for TDARS at the Astronomy event. We were showing and telling people what our demonstration was about and because our hobby being wide ranging meant there was always something to talk about that kept them interested.

The astronomy event brought in families with their children and they actively suggested they come to each table to find out about them and today all of the children who came along liked science. Hopefully we inspired any member of the family that may bring them to our hobby sooner or later.

The Pi computer with added amateur radio programs (automatically installed via a script by Jason KM4ACK) makes a great promotional device because it's easy and very portable to setup and get going with a radio. It can run lots of programs that are all free and in today's case astronomy related applications to show people. Also, families may already have experience of one, thanks to the children using them in primary school. Today one lad didn't recognise the Pi400 I was using (which looks different to other models of Pi) but said he learned some programming using the scratch (<https://scratch.mit.edu/>). This is pre-installed on the Pi operating system so he would have used a Pi in school.



Thanks to Peter for his EME setup - at least you gave it an outing - I reckon others in the club would find it interesting to see EME hardware and it in action. “

And comments from Peter G4URT: (who set up an impressive 2m EME station in the Hall and Car Park)

“ 'That went well... ' -

Despite at least 2 whole working days getting the system together from various boxes and testing it from my home address the result was not good....when I say not good --- what I really mean to say was total failure....

After a couple hours struggling to get it up (I'd forgotten about the weight of the antennas) and the last time I put it up was 5 years ago (fitter and healthier!) I first plugged in my IC910 and heard GB3VHF at S9. So far so good.

Plugging in the FCD revealed a waterfall full of noise. Coming from the hall or exterior not known, but a weak signal killer. Maybe if the moon was higher that day I could have risen above the noise. That coupled with the huge trees meant an early knock down.

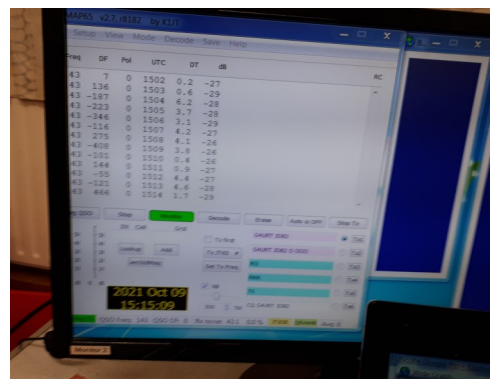
Thanks to all who helped out either physically or with encouragement - Martyn, John, Dave and Patrick (who may well start his own EME station next year).

So, maybe not Top Gear but my take on Julius Ceasar? -- 'Vini, Vidi, Relinqu'?? (I came, I saw, I gave up. . . ) “

8 + 8 elements on 2 metres



Peter's G4URT operating location (Hall)



Data on one monitor.

You can go one better and enclose the joints in a plastic box and completely fill the void. You only want to do this job once, so do it right. If water gets into the innards of the feeder...you'll soon have to buy some more, and good stuff is not cheap!

[Eaton Manor Estate, Eaton-under Heywood, Church Stretton. SY6 7DH ]

**Can YOU contribute something?— Don't just leave it to someone else !**







## EME Demo at Hinstock Village Hall. By Peter G4URT

It was a pleasant surprise to see a request from John M0XJA for TDARS members to contribute radio related demonstrations at the Shropshire Astronomy meet at Hinstock Village Hall on the 9<sup>th</sup> of October.

I say pleasant as it would give me a damn good excuse to investigate some un-opened boxes from my move to Wem and locate all the components of my /P EME station. It took the best part of the day to find everything I needed, re-build a couple of G4CQM 10 element yagis and test the support system (surveyors tripod, rotator, mast and elevation components). The only item MIA for the best part of the day was the LCD readout for the remote inclinometer (eventually found in a drawer in the shack). I had last used this set up about 5 years ago at the Herstmonceux Science Centre in Sussex which is based at the Equatorial Telescope Group of the Royal Greenwich Observatory as was. From memory this was quite successful as I made about 20 contacts one wet Saturday morning. Mind you, the callsign GB2RGO probably helped.

Below is an aerial view of the Science Centre (well worth a visit if you are in the area especially for kids – see picture below). I operated from the old met station which was located at the top left hand side of the picture. The picture should be recognisable to any one who watches the Sky at Night, Horizon and any programs presented by Brian Cox or Jim Al Kahlili! I'm actually a 'graduate' from there having completed a 10 week astronomy course. The last week we were invited to do our own presentation to the students and staff. I don't think that it would come as a total surprise that I chose 'Astronomy and Amateur Radio!' Quite a big subject actually encompassing subjects such as the ionosphere, EME, MS, Aurora, CMEs, SIDs etc (if you don't know look them up).



Early on I had decided to make this a receive only station using my FCD Pro+ dongle and a decode program from the WSJT suite of programs called Map65. 2 reasons for rx only – 1/ the FCD is used in amateur astronomy looking at the hydrogen emission lines amongst other things so it would be more relevant and 2/ I really couldn't be bothered to completely dismantle my station, take down the LNA box from the mast and then re-assemble everything in (hopefully) the right order afterwards. I suppose I could have just taken the K3 and used its internal 2m transverter but that would have meant using a single tx / rx coax with all the potential dangers of smoking another LNA

Next task was to actually put the 'RF' side together and see if I could decode any JT65b tones. I really wasn't bothered to test the system on the moon as I knew that the antenna / LNA system worked from previously. It was just that I had never connected the FCD to this system albeit I knew that the FCD works fine with my home antenna system. So it was just a case of pointing one of the yagis at GB3NGI and seeing if it decoded the JT65b tones. Which it did with no problem.

The only real issue (I thought...) was the moon itself. It would be around at the time of the meeting but it was one of those periods when it was only visible for a few hours and only 16 degrees maximum above the horizon. Looking at Google Earth at the site there were trees south through to west. Well, if the demo didn't work at least I would have a good excuse.

Anyway, came the day in question and it was off to Hinstock. It took about 2 hours to put the station together. The intervening few years had made the array much heavier than I remembered and help was required. Antennas are 2 off 10 element G4CQMs. Elevation via a screwjack from an electric chair (not the American penal type!), an old rotator and a surveyors tripod. 2 off 25kg bags of sand to prevent embarrassment... Elevation angle measured by a Machine-Dro angle indicator. Preamp is by I0JXX. RF coax is 20m of RG214. System first tested using my IC910X. GB3VHF was quite strong at S9 with the preamp in.





I then put the FCD in line only to be met with a screen that was over-loaded with a strong local signal. When I backed the gain way back from the level I have at home it revealed a screen full of interference. Basically something was pumping out low level RF that was wiping out any hope of receiving weak signals off the moon. Putting a BPF made no difference whatsoever. I now wished that I had taken a screen shot! It would have been better if the moon was higher as I may have got above the interference but it was not to be.



If anyone builds anything or needs to identify a mysterious device on a board, I'm sure many have needed to do this and been frustrated by the cryptic markings on the devices.  
Try this website and if you already have an idea what it maybe you will be able to narrow the part down with this part-number database

The "magic arm" with the gripper thing cost £25 but I've seen some as low as \$12 from Aliexpress including shipping - no idea if they are good or bad though. I got mine from Amazon, and seems ok so far.

[illegible]

**“The most common injury from dish installation results from the ground hazard. Quite a few people have been seriously injured or killed by arriving there too fast when trying to adjust feeds etc. Surely we should be doing something about the ground. Maybe it could be moved nearer or eliminated completely.”**